

A Ventromedian Cervical Sclerite of Mosquito Larvae  
(Diptera: Culicidae)<sup>1</sup>

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During studies on the subgenera of *Aedes* Meigen, a small pigmented plate was discovered on the ventral median region of the fourth stage larval cervical membrane. This plate, the *ventromedian cervical sclerite* (VmCS), is variable in pigmentation and development (Fig. 1). In some species and subgenera of *Aedes* (e.g., *Edwardsaedes* Belkin, *Neomelaniconion* Newstead, *Aedes* Meigen and many *Aedimorphus* Theobald) the sclerite is fairly large and heavily pigmented. Species of the subgenus *Verrallina* Theobald have a small but heavily pigmented sclerite (see illustrations of Reinert 1974). This structure was also illustrated but not described for *Aedes (Stegomyia) aegypti* (Linnaeus) by Hochman and Reinert (1974). The ventromedian cervical sclerite has a fragmented appearance in a number of species of the subgenus *Ochlerotatus* Lynch Arribalzaga (e.g., *canadensis* (Theobald) and *excrucians* (Walker)) while other species of the subgenus have a well developed complete sclerite (e.g., *atropalpus* (Coquillett) and *sollicitans* (Walker)) and still others apparently lack the plate altogether (e.g., *atlanticus* Dyar and Knab and *dupreei* (Coquillett)).

Seventy-four species in 19 subgenera of *Aedes* examined possessed a ventromedian cervical sclerite. These species and subgenera are listed below. Generic and subgeneric abbreviations follow Reinert (1975).

<i>Ae. (Abr.) papago</i>	<i>Ae. (Adm.) mediolineatus</i>
<i>Ae. (Aed.) cinereus</i>	<i>natronius</i>
<i>esoensis</i>	<i>oakleyi</i>
<i>Ae. (Adm.) alboscutellatus</i>	<i>orbitae</i>
<i>caecus</i>	<i>pallidostriatus</i>
<i>domesticus</i>	<i>pampangensis</i>
<i>fowleri</i>	<i>pipersalatus</i>
<i>haworthi</i>	<i>quasiunivittatus</i>
	<i>senyaviniensis</i>
	<i>stokesi</i>

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This work was supported in part by Research Contract DAMD-17-74-C-4086 from the U. S. Army Medical Research and Development Command, Office of the Surgeon General, Washington, D. C.

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<b>Report Documentation Page</b>			<i>Form Approved OMB No. 0704-0188</i>	
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1. REPORT DATE <b>1976</b>	2. REPORT TYPE	3. DATES COVERED <b>00-00-1976 to 00-00-1976</b>		
4. TITLE AND SUBTITLE <b>A Ventromedian Cervical Sclerite of Mosquito Larvae (Diptera: Culicidae)</b>			5a. CONTRACT NUMBER	
			5b. GRANT NUMBER	
			5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)			5d. PROJECT NUMBER	
			5e. TASK NUMBER	
			5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>Walter Reed Army Institute of Research, Department of Entomology, Washington, DC, 20012</b>			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSOR/MONITOR'S ACRONYM(S)	
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution unlimited</b>				
13. SUPPLEMENTARY NOTES				
14. ABSTRACT				
15. SUBJECT TERMS				
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>Same as Report (SAR)</b>	18. NUMBER OF PAGES <b>4</b>
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>	19a. NAME OF RESPONSIBLE PERSON	

Ae. (Adm.) <i>syntheticus</i>	Ae. (Och.) <i>canadensis</i>
<i>vexans</i>	<i>communis</i>
Ae. (Ala.) <i>brevitibia</i>	<i>diantaeus</i>
Ae. (Azt.) <i>ramirezi</i>	<i>excrucians</i>
Ae. (Dic.) <i>adersi</i>	<i>fulvus pallens</i>
<i>franciscoi</i>	<i>intrudens</i>
<i>whartoni</i>	<i>mitchellae</i>
Ae. (Edw.) <i>imprimens</i>	<i>rusticus</i>
Ae. (Fin.) <i>banksi</i>	<i>sollicitans</i>
<i>formosensis</i>	<i>squamiger</i>
<i>ganapathi</i>	<i>taeniorhynchus</i>
<i>harveyi</i>	<i>vigilax</i>
<i>hurlbuti</i>	<i>vittiger</i>
<i>inermis</i>	
<i>prominens</i>	Ae. (Par.) <i>ostentatio</i>
<i>sherki</i>	
<i>togoi</i>	Ae. (Pro.) <i>triseriatus</i>
Ae. (Gym.) <i>mediovittatus</i>	Ae. (Sku.) <i>pembaensis</i>
Ae. (How.) <i>sexlineatus</i>	Ae. (Stg.) <i>aegypti</i>
Ae. (Lor.) <i>fumidus</i>	<i>quasiscutellaris</i>
Ae. (Muc.) <i>laniger</i>	
<i>scatophagooides</i>	<i>vittatus</i>
Ae. (Neo.) <i>lineatopennis</i>	Ae. (Ver.) <i>adustus</i>
Ae. (Och.) <i>abserratus</i>	<i>butleri</i>
<i>atropalpus</i>	<i>carmenti</i>
	<i>cyrtolabis</i>
	<i>gibbosus</i>
	<i>indicus</i>
	<i>leicesteri</i>
	<i>nobukonis</i>
	<i>torosus</i>
	<i>uncus</i>
	<i>vallistris</i>
	<i>yusafi</i>

Twelve species in 4 genera other than *Aedes* were also examined and were found to possess a ventromedian cervical sclerite.

Cx. (Cx.) <i>restuans</i>	Hz. (Hz.) <i>aureochaeta</i>
Cx. (Ncx.) <i>territans</i>	<i>persimilis</i>
Hg. (Hag.) <i>janthinomys</i>	<i>proxima</i>
<i>lucifer</i>	<i>reidi</i>
<i>mesodentatus</i>	<i>scintillans</i>
<i>regalis</i>	Op. <i>fuscus</i>

A ventromedian cervical sclerite was not found in the following species.

<i>Ae. (Ayu.) griffithi</i>	<i>Er. chrysogaster</i>
<i>peytoni</i>	
<i>Ae. (Can.) masculinus</i>	<i>Or. alba</i>
	<i>fascipes</i>
<i>Ae. (Och.) atlanticus</i>	<i>signifera</i>
<i>dupreei</i>	
<i>An. (Ano.) crucians</i>	<i>Ps. (Jan.) ferox</i>
<i>punctipennis</i>	
<i>quadrimaculatus</i>	
<i>Cs. (Cus.) inornata</i>	<i>Ps. (Pso.) ciliata</i>
	<i>howardii</i>
<i>Cx. (Cux.) nigripalpus</i>	<i>Tx. (Lyn.) rutilus</i>
<i>peus</i>	
<i>De. mathesonii</i>	<i>Ud. argyurus</i>
<i>pseudes</i>	
	<i>Ur. (Ura.) sapphirina</i>
	<i>Wy. (Wyo.) mitchellii</i>
	<i>smithii</i>

This study was limited in scope; however, as additional species and genera are fully described and illustrated this sclerite may provide additional support for separating taxa.

#### ACKNOWLEDGMENTS

Appreciation is expressed to: Bruce F. Eldridge and Ronald A. Ward, Walter Reed Army Institute of Research for reviewing the manuscript; to Young T. Sohn, Medical Entomology Project, for preparing the illustrations; and Owilda J. R. Curtis, for typing the final manuscript.

#### REFERENCES CITED

Hochman, R. H. and J. F. Reinert. 1974. Undescribed setae in larvae of Culicidae (Diptera). *Mosq. Syst.* 6: 1-10.

Reinert, J. F. 1974. Medical entomology studies - I. A new interpretation of the subgenus *Verrallina* of the genus *Aedes* (Diptera: Culicidae). *Contrib. Am. Entomol. Inst.* (Ann Arbor) 11 (1): 1-249.

Reinert, J. F. 1975. Mosquito generic and subgeneric abbreviations (Diptera: Culicidae). *Mosq. Syst.* 7: 105-10.

Fig. 1

